IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

October 22, 2007

Serial No.	10/666,601
Applicant:	Hubert Lobo et al.
Filed:	09/18/2003
Title:	SYSTEM AND METHOD FOR ELECTRONIC SUBMISSION, PROCUREMENT, AND ACCESS TO HIGHLY VARIED MATERIAL PROPERTY DATA
Art Unit:	2167
Examiner:	Lovel, Kimberly.
Confirmation Number:	8543
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Commissioner for Patents
Alexandria, VA 22313-1450

PURPOSE OF DECLARATION

This declaration is to establish, under 37 C.F.R. §131 Applicant's invention of claims 1-4, 12-38, and 47 in U.S. Patent Application Ser. No. 10/666,601 prior to December 16, 2002, the filing date of Rappold, US Published Application number 2004/0117397, the primary reference cited in the Office Action of June 29, 2007, in support of the rejections under 35 U.S.C. § 103(a). This declaration is made by the inventors of the present application, Hubert Lobo and Kurien Jacob.

FACTS AND DOCUMENTARY EVIDENCE

The undersigned inventors hereby declare as follows:

1. Our names are Hubert Lobo, residing at 913 Wyckoff Rd. Ithaca, NY 14850, and Kurien Jacob, residing at 3 Lasalle Court, Franklin Park, NJ 08823.

2. We are the joint inventors of the invention disclosed in U.S. Patent Application Serial No. 10/666,601, filed September 18, 2003.

3. We conceived the invention claimed in the present application in May 2002, which date is prior to **December 16, 2002**, the filing date of U.S. PGPub. 2004/0117397, as shown in the attached Exhibit A which will be described in more detail below.

4. Kurien Jacob started implementation of the invention in June 2002, worked on it diligently thereafter. A prototype repository was populated with a sampling of test data by Datapoint Labs, a data provider and owner, at least as early as September 19, 2002. These statements are supported by the attached Exhibits, which will be described in more detail below.

5. A test system embodying the method of claim 15 was deployed at least as early as October 22, 2002. These statements are supported by the attached Exhibits, which will be described in more detail below.

6. The attached Exhibits provide evidence showing conception of the invention at least as early as May 30, 2002, and reduction to practice of the repository of claims 1 and 15(a)(iv) at least as early as September 19, 2002, when the repository was populated with data by a data provider and owner. The Exhibits show reduction to practice of the method of claim 15 at least as early as October 22, 2002, when the test system was deployed.

Specifically, the Exhibits are as follows:

a) Exhibit A is a copy of a proposal dated 30^{th} May 2002, describing the details of the claimed invention. These details are part of a confidential proposal and are not available publicly. This exhibit is relied upon to show that the invention was conceived at least as early as 30th May 2002.

b) Exhibit B is a cover e-mail dated September 19, 2002, which refers to the entry of test data into the system (which is the repository shown in Exhibit D) by a data provider and user, Datapoint Labs. The repository is the attachment to the e-mail, named MERDataSchema V4.zip.

c) Exhibit C is a printout showing the creation and modification date of the attachment to the e-mail in Exhibit B, which is the repository printed in Exhibit D, superimposed over a listing of the elements in the repository (implemented as a Microsoft Access database). This exhibit is relied upon to show the reduction to practice of the data repository of claim 1 at least as early as the creation and modification date of September 19, 2002.

d) Exhibit D, comprising pages D1 to D11, is a printout of tables from the database repository in the attachment to the e-mail of exhibit C, of September 19, 2002. The exhibit is relied upon to show reduction to practice of the repository of claim

1 and the method of claim 15 at least as early as that date. The printouts of the tables are dated "10/22/2007" because that is the date that the printouts were made, however the repository file from which the printout was made was on an archived copy of the ZIP file made on September 19, 2002 (see Exhibit E).

The tables show each of the elements of Claim 1. The pages of the printout have been annotated to show the relationship between the table and the elements of claim 1 (which is also the repository of claim 15(a)(iv)). Note on page D10, data for test "5774", referred to in the e-mail of Exhibit C.

e) Exhibit E shows a file directory listing showing the ZIP file with its creation date of September 19, 2002. This is offered to support the fact that the table printouts in Exhibit D were from a file created on that date.

f) Exhibit F shows a listing of users for the system, in which the first two users have a registration date of October 1, 2002. This is relied upon to show reduction to practice of the method of claim 15, specifically the customer database of 15(a)(iv)(c) and steps (b) and (c) of providing access to the repository. The user names after the first few are redacted, as they are still active users of the system.

g) Exhibit G shows various screen printouts and displays of the system which was implemented at least as early as October 20, 2002. This is relied upon to show reduction to practice of the method of claim 15. Specifically,

i) page G1 shows the initial screen display for the system. Superimposed on the page is a file list showing that the page was created at least as early as September 30, 2002.

ii) page G2 shows a screen showing a data owner and provider (Arthur MacLean) (claim 15(a)(i)-(iii) and 15(b)), who is also a data user (claim 15(c)), with his associated materials tests (15(a)(iii)). Declarants state that this screen was created at least as early as October 20, 2002.

iii) page G3 shows a test result display (claim 15(d)) displaying data on a test from the repository (claim 15(a)(iv)(b)). Declarants state that this display was created at least as early as October 20, 2002.

We each hereby declare that all statements made herein of our own knowledge are true and correct under penalty of perjury and that all statements made on information and belief are believed to be true and correct under penalty of perjury; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Hubert Lobo
Date: 10/23/07

Kurien Jacob
Date: 10/25/07

Exhibit A

Confidential

Proposal for development of an XML driven Data Repository

May 30, 2002

Kurien Jacob, Roots Computer Svcs, Basking Ridge, NJ

Executive Summary

In response to customer requests for reliable, real-time delivery of material test data in a variety of presentation formats, Datapoint Laboratories (referred to hereafter as the company), seeks to build a material test data repository. The data repository would serve structured test data, acquired through the in-house testing process or through established attributed sources. The data served would then be presented to the next data consumer. This would consist of, either the presentation logic for displaying the data to the customer, or popular CAE analytical packages operated by the customer, which could use the data as input for further processing. The data repository would support the primary business process of the company, whereby customer orders for tests or TestPaks™ are placed and then executed, while the test output results are maintained in the database under the ownership of the customer.

Existing Production Environment

In the existing environment, we have:

- A web-enabled customer database which houses customer information including order information. The order information includes the name of the test or Testpak™ to conduct, the information about the test sample and the customer billing information.
- The test output results, maintained as simple flat file structures. The test data is acquired automatically as a result of laboratory testing processes. The test results are converted into spreadsheets and then either printed out or stored as view only files for dispatch to the customer.
- A manual order fulfillment process.

Basic Functional Requirements

1. **Data Capture**
   All test data captured through the testing process must be maintained in the data repository. Furthermore, the system should allow for integration of test data from established third party sources such as material vendors.
2. **Retrieval**
   All captured test data must be stored for easy and quick retrieval, selective queries and with security restrictions on access.
3. **Flexibility**
   Provision must be provided, to accommodate an evolving test catalog, with each test being customizable to a limited extent by the customer.
4. **Reliability**
   The data capture, service and maintenance process must be reliable and predictable.

5. **Data Grading**

   The data acquired must be graded for reliability. This would depend on factors such as, whether the data is from a third party, and upon the reliability of information about test samples provided by the customer.

6. **Maintenance**

   The test data must be maintained, with changes only permitted to the access security level, data reliability factor, the data billing information and other information not related to the sample and its characterization. Further the data maintenance plan must take into account potential schema evolution.

7. **The Customer View**

   The customer must be able to:

   - Order new tests – Each order would be executed using industry standard online transactions.
   - Review/Cancel ordered tests.
   - Track the progress of a particular test order.
   - View results of the test data through standardized views of each test.
   - Print results using standardized templates for each test.
   - Download test data preformatted for input to CAE tools.
   - Query the repository through a limited set of test specific, material specific and manufacturer specific queries.
   - Purchase access to other test data – this option would be presented while querying the repository for data as stated above.
   - View historic test information that is owned by the customer

8. **All external views of the data must be based on a unified XML schema**

   The customer views of test data and queried test information must subscribe to an XML schema, which is closely related to the MATML schema. Furthermore, the unified view must include customer information such as preferences, billing information, etc.

9. **Current system reuse**

   The current system must be used as far as it can support the system's desired use-cases.

10. **Synchronization of current test output into the repository**

    Current test processes must be adapted to feed output data into the repository. Historic data must be loaded into the repository.

11. **A Use Case for Test Order and Fulfillment**

    In Fig. 1, a typical use case of the system is depicted, where the customer orders a test online. The administrator sets up the test to be offered in the test catalog, which would contain details about the test and the format of the result. The test is now made available to any registered user, who after browsing the test catalog, places an order for the test to be conducted. The online transaction would result in an update of the customer's records in the Customer Database and the initialization of the test information in the Test Database. The test is now conducted in the laboratory and the results are downloaded to the data repository. The customer can then view the test

results through the presentation logic, which would also be used by the administrator to verify the test result.

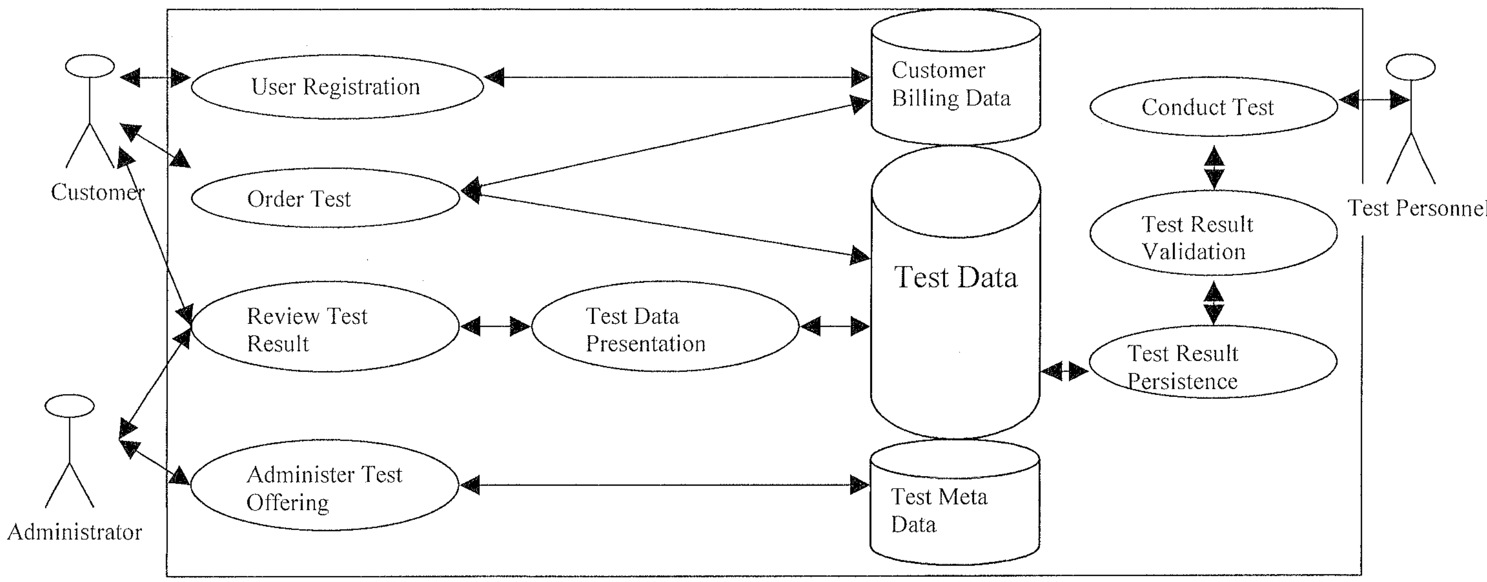


Fig 1. User Test Order and Fulfillment

1. **Choice of Data Store**

   We face the choice of using a native RDBMS with middleware generating XML views of the data, or using native XML stores. In the former case we again face the following choices:

   - Modeling the data purely as an XML schema, while leaving it up to the middleware to generate its internal mapping. Here we have the disadvantage that middleware may not optimally represent the data. This is a cause for concern, given the large volumes of test output data available.
   - Modeling the data traditionally while managing the mapping to an XML schema. Here we face the task of managing the relational schema as well as the mapping from relational to XML schema. Care needs to be taken that the mapping layer is not overly complex or large, as the lifecycle management of such a layer may significantly add to the cost of the system.

   In the case of using a native XML store, the current maturity of the technology is not comparable to that of relational stores in terms of managing the data. In addition there arises the question of sustainability of native XML DBMS packages in a market where large RDBMS vendors are entrenched.

2. **Data Modeling**

   The volume of data output through the testing process is large. A typical type of test data is in the form of graphs. The question arises whether to store the graph data as structured data, keeping a record of each point value output. The use-cases (both immediate and future) for the output would determine the approach taken. If the graph data is always indivisibly exposed as a single graph, then the value of storing each point separately is minimal, in this case the graph can be stored as a single large object which modern database packages can efficiently support. However if there

would be a use-case where the user wishes to selectively query the graph data (e.g. requesting a plot of a subset of the parameters), then the expense of retrieving all graph data would be inordinately large, thus separating each point would be a preferable solution.

3. **Dynamic Schema**
The suite of tests and TestPaks™ would be constantly changing. The tests offered have default values, which could change or be customized by the user. The test data format may differ depending on the context of the test (TestPak™ used). We must note that each change to the data schema would affect all processes feeding data into, and extracting data from, the system. Thus there would be a need to separate purely presentation related information from the data capture information, which would enable customizations of the presentation information without affecting the data capture information. In the case of using an XML-RDBMS hybrid solution, such a separation would also enable a generic presentation engine to be built, in order to expose the desired XML Schema. Such a presentation engine would work off the test *metadata* to build the output XML object.

Solution Framework

Architecture

1. **The XML Schema**

The XML Schema as proposed would be the customer view of all data in the database. The schema would be extended to include the existing customer information and billing information. This is required so that the presentation layer would be completely XML driven.

2. **Proposed Solution Architecture**

The proposed system would adopt the strategy of using an RDBMS store with an XML view being exposed through a presentation engine. Assuming a limited set of queries, which could be described as XPATH expressions, the complexity of such a presentation engine could be limited by utilizing existing RDBMS support for extracting XML documents from the database.

The test data that is captured would be passed through adaptors, which would feed the Test Database through efficient bulk data feeds. Here we would not require the test metadata to be submitted, resulting in a compact and efficient data upload.

The test metadata would share the lifecycle of the test offering in the catalog. The test metadata would now capture the presentation information and common test information. Administrative capability to edit and create and delete test types would be present.

The customer view would be driven off the XML schema, with high performance tasks such as graph rendering being pushed to the customer system.

The customers order and billing database would be integrated with the system to provide an extended XML schema, which composes the customer schema and the test data schema.

The system would be designed for 24x7 availability, with possible interruptions to service only while the test catalog is being updated.

3. Proposed High Level System Architecture

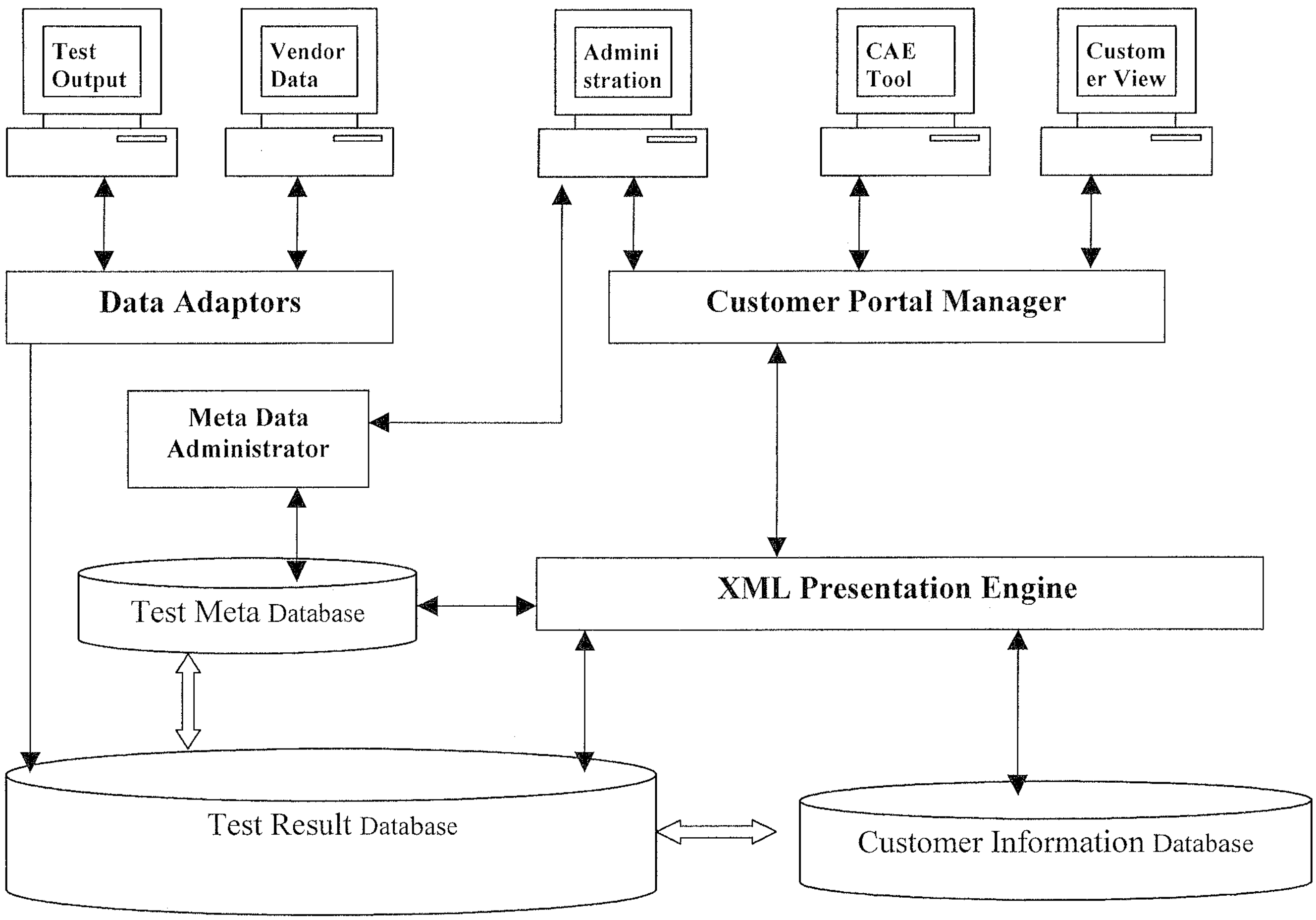


Fig. 2 System Components: Their interactions and relationships

4. **Maintenance of Test Meta Data**
   In order to accommodate continuous growth in the type of tests offered, there is a requirement to store test metadata. The test metadata would include the test catalogue data such as the test name, test type, test material characterization information, testing process description. In addition, the test metadata would include the description of test output data components. Thus both point data and the graphs captured in the output data would be described. Each component description would include the component's name/title, type (point/coefficient/graph) and the field descriptions for that component. Each field description would include the field name, the field's data type, acceptable value sets (ranges, enumerations), default values and the name of the field's physical unit (kg, in, J, etc). The administrator would be provided the capability to update the test catalog, i.e. add/edit tests, TestPaks™.
5. **Maintenance of Test Output Data**
   The test's data would be related to the metadata, which would describe it. The test's data would include generic test information, generic sample information and test component information. Standard test information would include data such as test instance identification, time and period of test, data ownership information, data access information and reliability information. Generic source sample information would include sample characterization information, manufacturing and post processing information. Test specific component information, as described by the metadata, would be maintained. All test data would identify the test type as specified by the test metadata.
6. **The Customer View**
   The customer would work in the context of a session where all requests and transactions are handled. The customer would have a portal from where repository data can be queried. Some of the functionality of this portal would be to:
   - Order new tests – Each order would be executed using industry standard online transactions.
   - Track the progress of a particular test order
   - View results of the test data through standardized views
   - Download test data preformatted for input to CAE tools.
   - Query the repository through a limited set of test specific, material specific and manufacturer specific queries.
   - Purchase access to other test data – this option would be presented while querying the repository for data as stated above.
7. **Synchronization of current test output into the repository**
   Existing test output processors would be adapted to feed the repository data that is consistent with the schema. This would involve validating the data and performing constraint checks as specified in the test metadata prior to feeding the repository. Historic test data, which is maintained as spreadsheet data, would have to be loaded into the database.

The Development Platform

The choices we have here are of development upon a commercial Java based platform, the Microsoft platform, or a proprietary platform. Given that the Java and Microsoft platforms effectively support our system architecture, the third option is discarded as being overly expensive. The Java based platform (referred to as the J2EE based Web Application framework), has large system vendor such as Sun Microsystems, IBM and BEA systems as well as smaller system vendors such as Macromedia. We have the advantage of portability and the choice of moving to a non-Microsoft based Operating Environment should the transaction processing requirements increase vastly. The Microsoft Platform (also known as the .NET platform) provides support for developing web-based services. In the current scenario, given that the existing customer database and order management system are built upon a Microsoft platform, it (the Microsoft supported platform) looks to be cost effective. Thus, in the current case the system would be developed using the Microsoft Windows operating platform, with the Microsoft SQL Server database manager, the Microsoft Internet Server and the .NET web-services platform. The hardware requirements for system development, apart from the current laboratory test process equipment, would include an Intel processor (preferably Xeon) based server, and client workstations for data presentation.

Project Stages

1. **Detailed Feature Matrix and phasing of the deliverables**
   During this stage the following activities would be completed:
   i. The detailed feature matrix of all system modules.
   ii. The phasing of delivery of all the system features.
   The deliverable for this stage is the detailed description of all use cases to be covered, the system feature matrix, the complete schema and the detailed project schedule for the full feature set (Approximate time span: 7 days).

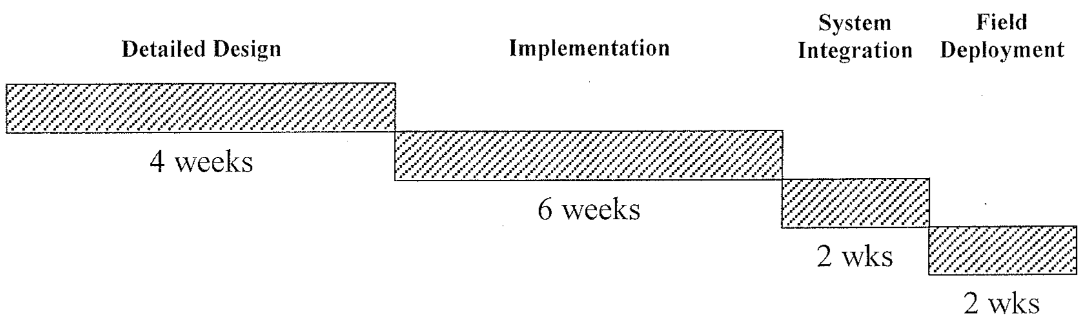
2. **Detailed Design of Phase One deliverables**
   In this stage, the detailed design of each system module would be undertaken. At the end of this stage, the detailed design of the system would be complete. The phasing of all the system features would be undertaken in this stage. The deliverable for this stage is the detailed design document. This would contain the detailed description of all components with their interfaces and the data structures used (Approximate time span: 20 days).
3. **Implementation of Phase One deliverables**
   At the end of this stage, the implementation and unit testing of all modules of the system identified as Phase One deliverables would be complete. The delivery for this stage is the documented code for each of the modules (Approximate time span: 20 days).
4. **System Integration and Testing of Phase One deliverables**
   At the end of this stage, the integration testing of all modules of the system would be complete. The deliverable for this stage is a field deployable system (Approximate time span: 15 days).
5. **Deployment and Field Testing for Phase One deliverables**

This stage would involve conducting customer trials of the system (Approximate time span: 15 days).

Milestones *{specific dates would depend upon feature matrix/start-date of project}*

1. XML Data Schema + Relational Mapping.
2. Feature Matrix + Detailed Schedule.
3. Design
   i. Design of XML Presentation Engine and Meta Data Administrator.
   ii. Design of Data Adaptors.
   iii. Design of Customer Portal Manager.
4. Implementation
   i. Implementation and Unit Testing of XML Presentation Engine and Meta Data Administrator.
   ii. Implementation and Unit Testing of Data Adaptors.
   iii. Design and Unit Testing of Customer Portal Manager.
5. System Integration.
6. Deployment and Field Testing.

Timeline *{detailed timeline would be based upon the Feature Matrix}*



Total Timeline for Phase 1: 16 weeks.

Delivery Plan

Each system module would be developed in isolation from the existing system, to avoid potential disruption of business processes. At the time of system integration the various modules would be deployed on a set of machines, which would reflect the final field deployment scenario. Deployment would be staged with the existing system running concurrently with the new system.

Project Costing

The cost of the project would involve:

1. Commercial software: Microsoft Server Software.
2. Hardware resources: 1 Server Workstation, 1 Client PC
3. Time and Money: Base rate of $60/hr (for a 40 hour week, no charges for extra hours).

Exhibit B

Hubert Lobo

From: Twylene Bethard [bethard@datapointlabs.com]
Sent: Thursday, September 19, 2002 1:17 PM
To: Kurien Jacob
Cc: Hubert
Subject: test case

MERDataSchema v4.zip

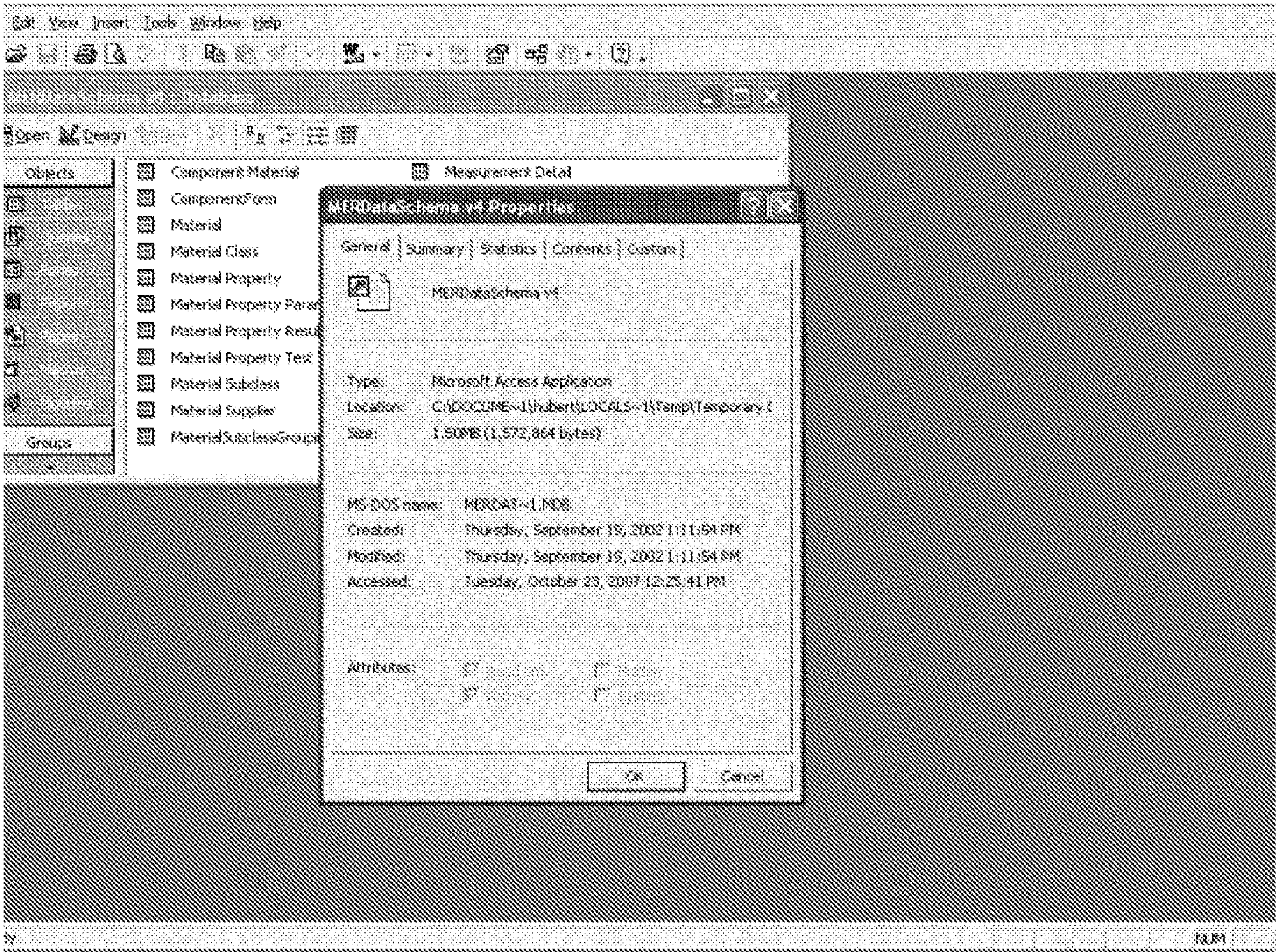
Hi Kurien,

Here's a ZIP file with my attempt to add sample test data. There are so many different types of IDs that I don't know if I specified them all correctly - you may have to try to correlate between the different tables. The test case is Test1, Sample ID 5774, with capillary viscosity data: three temperatures of viscosity vs. shear rate data, and a model fit applied to the set of all temperatures. Hope this works - let me know if you have any questions.

Twy

Twylene Bethard
DatapointLabs
Ph: 607-266-0405
Fax: 607-266-0168

Exhibit C


Edit View Insert Tools Window Help
Open Design
Objects
Groups
Component Material
ComponentForm
Material
Material Class
Material Property
Material Property Param
Material Property Resul
Material Property Text
Material Subclass
Material Supplier
MaterialSubclassGroup
Measurement Detail
MERDataSchema v4 Properties
General Summary Statistics Contents Custom
MERDataSchema v4
Type: Microsoft Access Application
Location: C:\DOCUME~1\hubert\LOCALS~1\Temp\Temporary I
Size: 1.50MB (1,572,864 bytes)
MS-DOS name: MERDAT~1.MDB
Created: Thursday, September 19, 2002 1:11:54 PM
Modified: Thursday, September 19, 2002 1:11:54 PM
Accessed: Tuesday, October 23, 2007 12:25:41 PM
Attributes:
OK
Cancel
NUM

1 a)

SupplierID	SupplierName	Material Supplierurl
1	Owens Corning	
2	Dow Chemicals	www.dow.com
3	BASF	
4	ALCOA	

Exhibit D - page D2

1 a)

ISO Name	ASTM Name	Class	Group
PE-HD	HDPE	Plastic	
PE-LD	LDPE	Plastic	
PC	PC	Plastic	
PP	PP	Plastic	

Name	Category	Description
Capillary Viscosity	Flow	Viscous behavi
Charpy Impact	Mechanical	None
Coefficient of Friction	Mechanical	None
Coefficient of Linear Thermal Expansion	Thermal	None
Compressive Creep	Mechanical	None
Compressive Properties	Mechanical	None
Dynamic Mechanical Properties in Torsion	Mechanical	None
Flexural Creep	Mechanical	None
Flexural Fatigue	Mechanical	None
Flexural Properties	Mechanical	None
Heat Deflection Temperature	Thermal	None
Instrumented Dart Impact	Mechanical	None
Izod Impact	Mechanical	None
Melt Rheology by Dynamic Mechanical Analysis	Flow	None
Planar Tension	Mechanical	None
Shear Strength	Mechanical	None
Specific Heat	Thermal	None
Stress Relaxation	Mechanical	None
Tensile Creep	Mechanical	None
Tensile Properties	Mechanical	None
Thermal Analysis	Thermal	None
Thermal Conductivity	Thermal	None
Thermal Diffusivity	Thermal	None
Vicat Softening Temperature	Thermal	None

1a i)

METADATA ON MATERIAL

Name	Class	Subclasses	Specifications	Manufacturer	Terms	Notes	Formula	Applications
E-Glass	Glass			Owens Corning		E type Glass us		
EXP 23569	Plastic	PP		Dow Chemicals			Polypropylene	
ProFax 6323	Plastic	PP		Dow Chemicals			Polypropylene	
Test1	Thermoplastic	PP		Dow Chemicals				

Exhibit D - page D5

1a iii)

METADATA ON TEST

Name	ID	Techniqu	Property Name	Category	Type	Units	Numeri	Numeri	Numeric	Numeric
Temperature	1	R-011A	Capillary Viscosity	Test Parameter	Numeric	C		23	400	5
Substrate	2	M-060A	Coefficient of Friction	Test Parameter	String					
Speed	3	M-060A	Coefficient of Friction	Test Parameter	Numeric	mm/mi	50	5	500	2
Substrate	4	M-060I	Tensile Creep	Test Parameter	String			0	0	0
Speed	5	M-060I	Coefficient of Friction	Test Parameter	Numeric	mm/mi	100	5	500	0
Conditioning	6	M-060A	Coefficient of Friction	Specimen Detai	String			0	0	0
Conditioning	7	M-060I	Coefficient of Friction	Specimen Detai	String			0	0	0
Speed	8	M-210A	Compressive Properti	Test Parameter	Numeric	mm/mi	5	1	500	0
Surface	9	M-210A	Compressive Properti	Test Parameter	String			0	0	0
Precycling	10	M-210A	Compressive Properti	Test Parameter	String			0	0	0
Temperature	11	M-210A	Compressive Properti	Test Parameter	Numeric	C	23	-70	250	0
Specimen Type	12	M-210A	Compressive Properti	Specimen Detai	String					0
Specimen Orie	13	M-210A	Compressive Properti	Specimen Detai	String					0
Specimen Con	14	M-210A	Compressive Properti	Specimen Detai	String					0
***START	50		Capillary Viscosity	Test Parameter	String					
Specimen Test	101		Tensile Properties	Specimen Detai	String					
Specimen Con	102		Tensile Properties	Specimen Detai	String					
Other Specime	103		Tensile Properties	Specimen Detai	String					
Specimen Orie	104		Tensile Properties	Specimen Detai	String					
Test Temperat	105		Tensile Properties	Test Parameter	Numeric	°C	23			0.0
Laboratory Hu	106		Tensile Properties	Test Parameter	Numeric	%				0.0
Crosshead Spe	107		Tensile Properties	Test Parameter	Numeric	mm/mi	5			3
Extensometry	108		Tensile Properties	Test Parameter	String					
Specimen Test	201		Compressive Properti	Specimen Detai	String					
Specimen Con	202		Compressive Properti	Specimen Detai	String					
Other Specime	203		Compressive Properti	Specimen Detai	String					
Test Temperat	205		Compressive Properti	Test Parameter	Numeric	°C	23			0.0
Laboratory Hu	206		Compressive Properti	Test Parameter	Numeric	%				0.0
Crosshead Spe	207		Compressive Properti	Test Parameter	Numeric	mm/mi	1.3			
Extensometry	208		Compressive Properti	Test Parameter	String					
Specimen Test	301		Flexural Properties	Specimen Detai	String					
Specimen Con	302		Flexural Properties	Specimen Detai	String					
Other Specime	303		Flexural Properties	Specimen Detai	String					

1a) iv.

METADATA ON DATA VALUE ELEMENT

ID	Property Name	Name	Result Ty	Summary	Definition	Table	Plot
1	Compressive Properties	Compressive Modulus	Numeric	☐	Compressive modulus is the slope of the st	☑	
2	Compressive Properties	Compressive Strength	Numeric	☐	This is the maxima	☑	
3	Dynamic Mechanical Pr	G'G" Plot	XYYMatr	☐	Visco-elastic proerpties representing the lo	☑	Symb
4	Dynamic Mechanical Pr	Tan Delta Plot	XYMatri	☐		☐	Symb
5	Capillary Viscosity	Cross Model	XYZ Eqn	☑	4 coeff viscosity model	☐	Line
101	Tensile Properties	Tensile Modulus	X	☐	The slope of the stress-strain curve over a	☑	
102	Tensile Properties	Tensile Modulus - Young's	X	☐	The slope of the initial, linear portion of the	☑	
103	Tensile Properties	Tensile Modulus - Secant	X	☐	The ratio of the stress to the strain at a give	☐	
104	Tensile Properties	Offset Yield Stress in Tension	X	☐	The stress at the intercept of the stress-str	☑	
105	Tensile Properties	Offset Yield Strain in Tension	X	☐	The strain at the intercept of the stress-stra	☑	
106	Tensile Properties	Tensile Strength at Yield	X	☐	The stress at a local maxima on the stress-	☑	
107	Tensile Properties	Tensile Strain at Yield	X	☐	The strain at which the stress reaches a loc	☑	
108	Tensile Properties	Tensile Strength at Break	X	☐	The stress at which the specimen broke.	☑	
109	Tensile Properties	Tensile Strain at Break	X	☐	The strain at which the specimen broke.	☑	
110	Tensile Properties	Poisson's Ratio	X	☐	The ratio of the transverse (contraction) str	☑	
111	Tensile Properties	Engineering Tensile Stress-St	XY	☐	Stress (load / initial cross-sectional area) vs	☐	Line
112	Tensile Properties	True Tensile Stress-Strain Cur	XY	☐	True stress (engineering stress adjusted fo	☐	Line
113	Tensile Properties	Engineering Tensile Stress-St	XY	☐	Reduced set of points from the engineering	☑	
114	Tensile Properties	True Tensile Stress-Strain Dat	XY	☐	Reduced set of points from the true stress-	☑	
201	Compressive Properties	Compressive Modulus	X	☐	The slope of the stress-strain curve over a	☑	
202	Compressive Properties	Compressive Modulus - Youn	X	☐	The slope of the initial, linear portion of the	☑	
203	Compressive Properties	Compressive Modulus - Seca	X	☐	The ratio of the stress to the strain at a give	☑	
204	Compressive Properties	Offset Yield Stress in Compre	X	☐	The stress at the intercept of the stress-str	☑	
205	Compressive Properties	Offset Yield Strain in Compres	X	☐	The strain at the intercept of the stress-stra	☑	
206	Compressive Properties	Compressive Strength at Yield	X	☐	The stress at a local maxima on the stress-	☑	
207	Compressive Properties	Compressive Strain at Yield	X	☐	The strain at which the stress reaches a loc	☑	
211	Compressive Properties	Engineering Compressive Str	XY	☐	Stress (load / initial cross-sectional area) vs	☐	Line
212	Compressive Properties	True Compressive Stress-Stra	XY	☐	True stress (engineering stress adjusted fo	☐	Line
213	Compressive Properties	Engineering Compressive Str	XY	☐	Reduced set of points from the engineering	☑	
214	Compressive Properties	True Compressive Stress-Stra	XY	☐	Reduced set of points from the true stress-	☑	
301	Flexural Properties	Flexural Modulus	X	☐	The slope of the stress-strain curve over a	☑	
302	Flexural Properties	Flexural Modulus - Young's	X	☐	The slope of the initial, linear portion of the	☑	
303	Flexural Properties	Tensile Modulus - Secant	X	☐	The ratio of the stress to the strain at a give	☑	

1b)

ID	Sample ID	Property Name	Measurement Technique ID	ProviderRefID	Data Provider	Measurement Instru
1001	5233	Specific Heat	T-015A	3443	DatapointLabs	Perkin Elmer
1002	5233	Dynamic Mech	M-210A	3443	DatapointLabs	Rheometrics ARES
1003	5233	Capillary Visco	M-210A	3443	DatapointLabs	Goettfert Capillary R
2001	5774	Capillary Visco	R-011A	3443	DatapointLabs	Goettfert Rheograph

9 DATA VALUE ELEMENTS

INFO ON SAMPLE

INFO ON TEST

Page D8 adjoins here

Measurement Date	MeasuredBy	CertifiedBy	Accredited	Notes
3/15/2002	CM	TB	☑	
2/3/2002	HL	TB	☑	
3/15/2002	JA	TB	☑	
8/15/2002	JA	TB	☑	

1 b i) TEST DATA ELEMENT – TEST PARAMETERS

ID	Parameter ID	Measurement ID	Value	Parameter Tuple ID
1000	8	1001	5	354
1001	11	1001	23	354
1002	8	1001	5	355
1003	11	1001	60	355
1004	8	1001	5	356
1005	11	1001	100	356
1006	8	1001	50	357
1007	11	1001	23	357
1008	8	1001	500	358
1009	11	1001	23	358
2001	2110	2001	220	101
2002	2110	2001	240	101
2003	2110	2001	260	101

Exhibit D - page D9

Exhibit D - page D10

1b i)

SAMPLE DATA ELEMENT

SampleID	MaterialNameA	AliasName	Sample Identifi	Sample Source	Form	Geometry
5224	EXP 23569	ProFax 6323	Lot# 2356	Dow Chemical	ASTMD790 flex	5" long, 12.5 mm wide, 3.16 mm thi
5233	EXP 23569	ProFax 6323	Lot# 2356	Dow Chemical	ASTM Typ1 Te	12.5 mm wide, 3.16 mm thick
5554	EXP 23569	ProFax 6323	Injection Molde	Black&Decker	pellets	na
5774	Test1				pellets	

1 b ii)

Property Measurement Result

10/22/2007

DATA VALUE ELEMENTS

ID	Property Measurement ID	Property Result ID	Result Value	Result Type	Result Notes
1	1001	211	10,25.1, 100, 12.2	Value	Eng ss
2	1001	212	10,20.3, 100,11.5	Value	True ss
3	1001	201	123	Value	Modulus
4	1001	211	10,25.1, 100, 12.2	Value	Eng ss
5	1001	212	10,20.3, 100,11.5	Value	True ss
6	1001	201	125	Value	Modulus
7	1001	211	10,25.1, 100, 12.2	Representative	Eng ss
8	1001	212	10,20.3, 100,11.5	Representative	True ss
9	1001	201	128	Representative	Modulus
101	2001	2101	52.88126307,277.141640	Value	
102	2001	2101	53.01389209,207.336220	Value	
103	2001	2101	52.49668912,174.482432	Value	
104	2001	2111	0.32309,,2.258E+04,Pa,6	Value	

Exhibit E

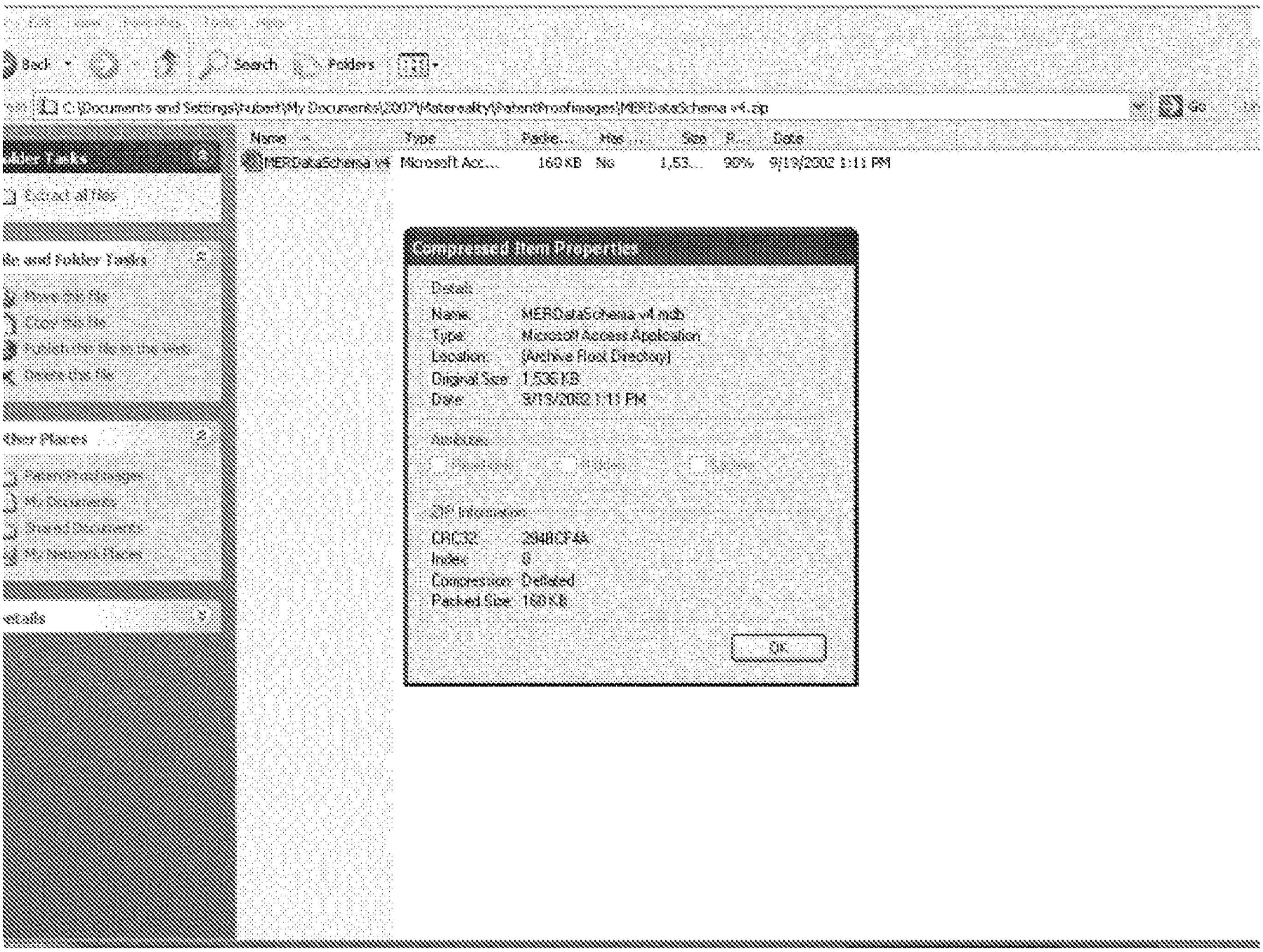

Back
Search
Folders
Name
Type
Date
MERDataSchema v4
Microsoft Acc...
160 KB
No
90%
9/13/2002 1:11 PM
Extract all files
Other Places
Details
Compressed Item Properties
Details
Name: MERDataSchema v4.mdb
Type: Microsoft Access Application
Location: [Archive Root Directory]
Original Size: 1,536 KB
Date: 9/13/2002 1:11 PM
CRC32: 2848CF4A
Index: 0
Compression: Deflated
Packed Size: 160 KB
OK

Exhibit F

LoginID	RegDate	LoginID	RegDate
meradmin	10/1/2002		6/13/2003
merguest	10/1/2002		6/13/2003
hubert	11/30/2002		6/13/2003
@renu1322	11/30/2002		6/13/2003
@twylene137	11/30/2002		6/13/2003
datapointlabs	11/30/2002		6/13/2003
kurien	2/13/2003		6/13/2003
	2/17/2003		6/18/2003
	3/5/2003		6/18/2003
	3/5/2003		6/24/2003
	3/6/2003		7/16/2003
	3/12/2003		7/16/2003
	3/12/2003		7/16/2003
	3/12/2003		7/16/2003
user names redacted	3/12/2003	user names redacted	7/16/2003
	3/12/2003		7/17/2003
	3/12/2003		7/22/2003
	3/12/2003		7/22/2003
	3/12/2003		7/23/2003
	3/31/2003		7/28/2003
	3/31/2003		7/28/2003
	3/31/2003		7/28/2003
	3/31/2003		7/29/2003
	3/31/2003		7/31/2003
	3/31/2003		7/31/2003
	3/31/2003		7/31/2003
	3/31/2003		8/1/2003
	3/31/2003		8/1/2003
	3/31/2003		8/1/2003
	4/3/2003		8/1/2003
	4/3/2003		8/4/2003
	4/4/2003		8/6/2003
	4/4/2003		8/7/2003
	4/4/2003		9/23/2003
	4/4/2003		9/26/2003
	4/11/2003		10/8/2003
	4/28/2003		10/8/2003
	5/1/2003		10/14/2003
	5/1/2003		10/14/2003
	5/1/2003		10/15/2003
	5/1/2003		10/23/2003
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	5/12/2003		10/23/2003
	5/12/2003		10/23/2003
	5/19/2003		10/27/2003
	5/20/2003		10/27/2003
	5/21/2003		10/27/2003
	5/21/2003		10/27/2003
	5/21/2003		10/27/2003
	6/3/2003		10/27/2003
	6/6/2003		10/28/2003

Exhibit G - Page G1

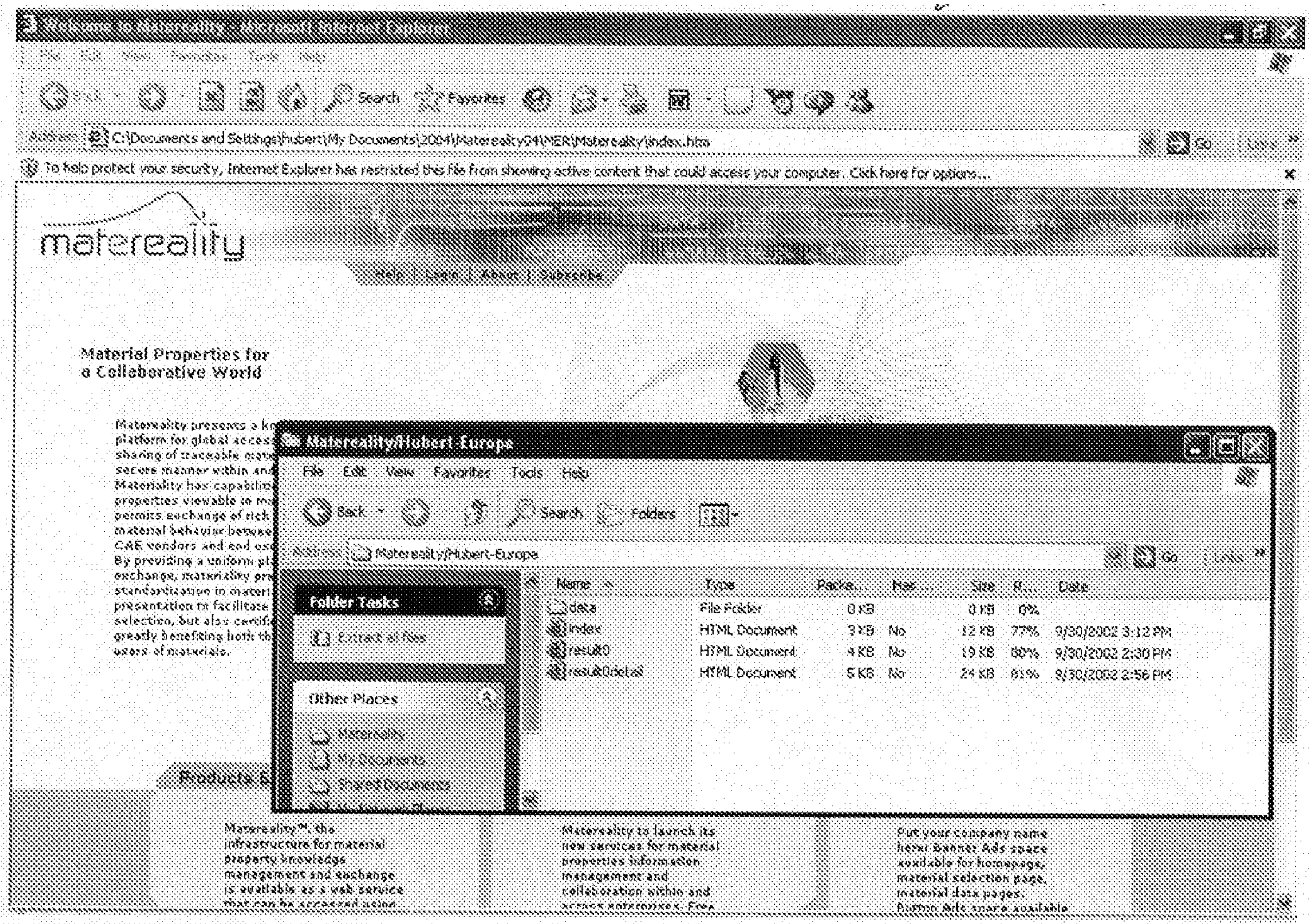
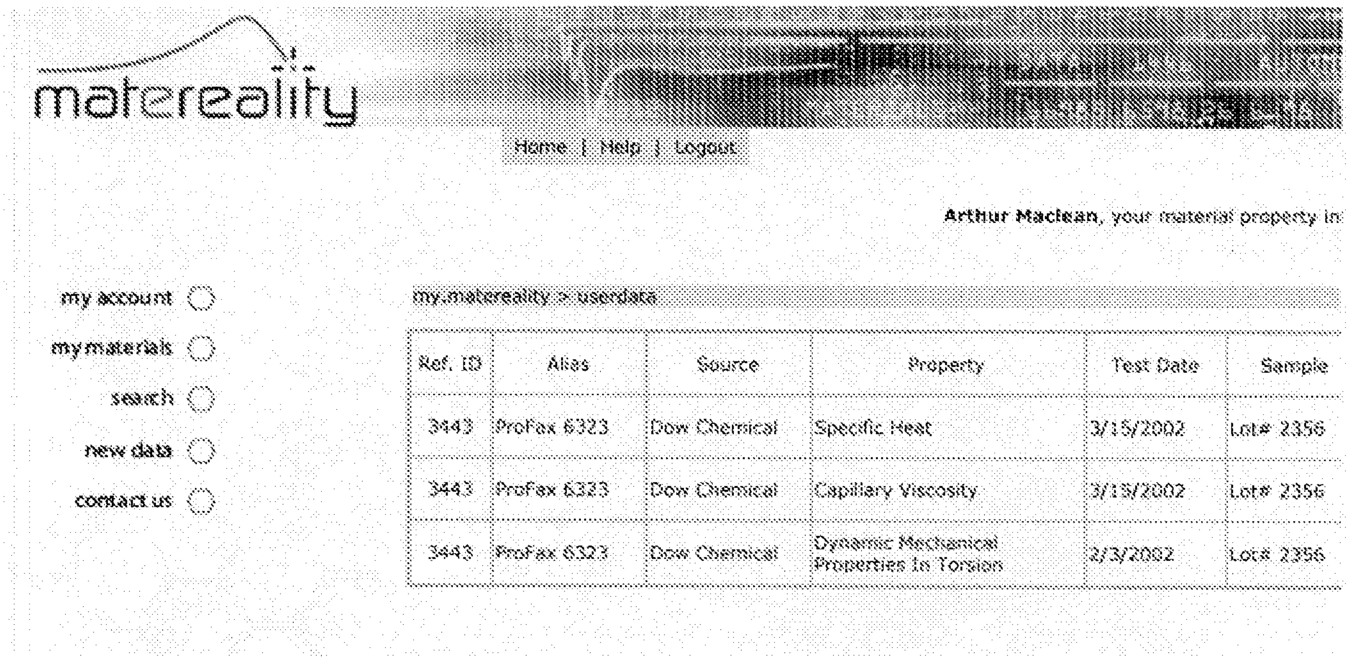


Exhibit G - Page G2



Ref. ID	Alias	Source	Property	Test Date	Sample
3443	ProFax 6323	Dow Chemical	Specific Heat	3/15/2002	Lot# 2356
3443	ProFax 6323	Dow Chemical	Capillary Viscosity	3/15/2002	Lot# 2356
3443	ProFax 6323	Dow Chemical	Dynamic Mechanical Properties In Torsion	2/3/2002	Lot# 2356

Exhibit G - Page G3

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EXP 23569
Viscosity vs. Shear Rate

Result Details

Method	ASTM D 3835 - 96 Rheological Measurement of Polymer Melts by Means of a Capillary Rheometer
Instrument	Goettfert Rheograph 2003 Capillary Rheometer
Precision	temperature
Sample	type source
Parameters	barrel diameter die entry angle die length preheating time initial pressure die inner diameter
Traceability	Test Lab Test Accreditation Test Date Test Technician Certified By Test Uncertainty

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